

Seed Rate and Grading

Seed rate

- Seed rate may be defined as the amount of seed required for a unit area of land to grow any crop successfully.
- In other word, the amount of seed required to raise a crop successfully on a given land is called the seed rate for that crop of that land.
- Finally, the amount of seed that are required to be planted in an unit area of land is called seed rate.

$$\text{Seed Rate (kg/ha)} = \frac{10 \left(\text{DPP} + \frac{\text{DPP} \times \text{PSA}}{100} \right)}{\text{PP} \times \text{PG} \times 1000} \times \text{WTS}$$

Where,

WTS= Weight of Thousand Seed in gram.

DPP= Desired Plant Population.

PSA= Pure percentage of Safety Allowance.

PP= Percentage of Purity.

PG= Percentage of Germination.

Objectives of seed rate

1. To ensure desired number of plant population in the field.
2. To reduce the wastage of seeds.
3. To know in advance the amount of seed to be required for a particular land.
4. To increase yield and quality of a crop.
5. To reduce the cost of cultivation of crop.

Factors affecting seed rate

Following factors are considered for determining the seed rate-

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| 1. Desired Plant Population (DPP). | 8. Soil productivity. |
| 2. Percentage of Germination (PG). | 9. Varietal morphology. |
| 3. Purity Percentage (PP). | 10. Growing season. |
| 4. Pure percentage of Safety Allowance (PSA). | 11. Viability of seed. |
| 5. Weight of seed. | 12. Age of seed. |
| 6. No. of seed per pit. | 13. Size of seed. |
| 7. Planting method. | 14. Objectives of crop cultivation. e.g.
Food purpose, Seed purpose. |

Planting value of seed

PLS/RVS

PLS= Pure Live Seed.

RVS= Real Value of Seed.

PLS or RVS is a quality of seed which indicate what percentage of seed is capable to produce seedling. The result of PLS or RVS is expressed in percentage and calculate by the following formula-

$$\text{PLS or RVS} = \frac{\% \text{ Purity} \times \% \text{ Germination}}{100} \%$$

The higher is the value of PLS/RVS the lower is the seed rate but higher is the market price.

Seed grading

Seed Grading means the sorting of seed on the basis of their quality.

Objectives of seed grading

1. To improve physical purity of seed by removing all smaller, broken, lighter, immature and diseased seed.
2. To improve empty, sterile and also contaminate crop and weed seed.
3. To remove soil particle, gravel and sand mixed from certain kind of seed.
4. To remove heavy, inert material from large volume of seed.
5. To sperate smooth and round seed from rough flat or elongated seed.
6. To separate off-coloured seed.
7. To help in seedling by grain drill.
8. To improve germination and higher yield.